

## A NEW *PASSALORA* SPECIES FROM NEPAL

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ABSTRACT — *Passalora nepalensis* sp. nov., dematiaceous hyphomycete parasitic on *Ahhus nepalensis* D. Don., was incidentally collected by present authors at Royal Botanical Garden Godavary, Lalitpur, Nepal at an altitude of 1515 m, in October 1982.

RÉSUMÉ — Description, illustration et diagnose latine de *Passalora nepalensis* sp. nov., hyphomycète dématié parasite sur *Ahhus nepalensis* D. Don., récolté au Népal, à 1515 m d'altitude, en octobre 1982.

KEY WORDS : *Passalora*, dematiaceous hyphomycetes, Nepal, systematics.

### MICROSCOPIC OBSERVATIONS

Leaf spots non or pale brown. Colonies hypophyllous, olivaceous-brown to dark. Mycelium internal. Fascicle 15 to 30  $\mu\text{m}$  broad. Conidiophores up to 18 per fascicle, 230-470  $\mu\text{m}$  long, 3-5  $\mu\text{m}$  broad, multiseptate (up to 12 septa), simple, unbranched, not rigid, smooth, not swollen at apex, olivaceous to pale brown at base and paler above. Conidial scars not conspicuous and flat against the side of conidiophores. Conidia hyaline to pale olivaceous, obclavate, mostly 1-2 septate, rarely 3 septate, apical cell narrower and septate, basal cell swollen, smooth, 27.5-60  $\mu\text{m}$  long, 3-8  $\mu\text{m}$  broad, mostly 37.5-50  $\mu\text{m}$  long (Figure 1).

### DISCUSSION

DEIGHTON (1967) recognizes three species of *Passalora* Fr. under two groups based on the characters of conidiophores and conidia. They are *P. alni* (Chupp. & Green) Deighton., *P. bacilligera* (Mont. & Fr.) Mont. & Fr. and *P. microsperma* Fuckel.

The present fungus differs greatly from *P. alni* in septate conidiophores and their length (Table 1). It also differs from *P. bacilligera* and *P. microsperma* in unbranched, simple conidiophores without swollen apex despite of non rigidity. The size and colour of the conidia also differ from the rest two species.

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TABLE 1

Species	Conidiophores	Conidia ( $\mu\text{m}$ )	Septa	Colour
<i>P. alni</i>	Usually simple, not more than $110\mu\text{m}$ long, not septate, rigid, without swollen apex.	26 - 87 x 4 - 7	1	Paler
<i>P. bacilligera</i>	Branched, not more than $180\mu\text{m}$ long, 2-3 septa, not rigid, swollen apex.	21 - 68 x 4.5 - 8.5	0 - 3	Pale
<i>P. microsperma</i>	Branched upto $360\mu\text{m}$ long, multiseptate, not rigid, swollen apex.	13 - 34 x 5.5 - 9	1	Pale
<i>P. nepalensis</i>	Simple, upto $470\mu\text{m}$ long, multiseptate (up to 12), not rigid, without swollen apex.	27.5 - 60 x 3 - 8	1 - 2 mostly, rarely 3	Hyaline to pale olivaceous

Table 1 - Microscopic characteristics compared among *Passalora* sp.

Tableau 1 - Comparaison des caractères microscopiques des espèces de *Passalora*.

Among the three species, *P. alni* on *Alnus crispa* is endemic in north America, on *A. sitchensis* in Alaska, and on *A. alnobetula* in Switzerland, south Germany, Austria and Bulgaria.

*P. bacilligera* on *A. glutinosa* is distributed throughout Europe only. *P. microsperma* on *A. incana* is concentrated to Germany, Switzerland, Latvia and Denmark.

Till now there is no report of *Passalora* sp. on *Alnus nepalensis* from Nepal (SINGH & JOSHI, 1977) and Indian subcontinent (BILGRAMI & al., 1979). The host is distributed throughout north himalayan ranges from east to west. In Nepal it is concentrated in subtropical belt (1000-2000 m) only.

The clear differences in microscopic characters and the host itself has supported to distinguish the present specimen from the others. Therefore a new species is proposed for the fungus as follows.

*Passalora nepalensis* sp. nov.

*Maculae non vel pallide brunneae. Caespitulosa hypophylla, dense olivacea-brunnea. Mycelium immersum. Stromata non. Conidiophora usque 18 in fasciculo, 230-470 $\mu\text{m}$  longa, 3-5  $\mu\text{m}$  lata, usque 12 septata, simplicia, non rigida, laevia, basi olivacea - pallide brunnea, sursum pallidiora. Cicatrices conidiales non conspicuae. Conidia hyalina vel dilute olivacea, obclavata, 1-2 septata, rarissime 3 septata, laevia, 27.5-60  $\mu\text{m}$  longa, 3-8  $\mu\text{m}$  lata.*

*Habitat in foliis vivis Alnus nepalensis* D. Don., R.B.G. Godavary, Nepalis, Oct. 1982, National Herbarium (DMP : KATH), 238 typus, Adhikari et Manandhar.

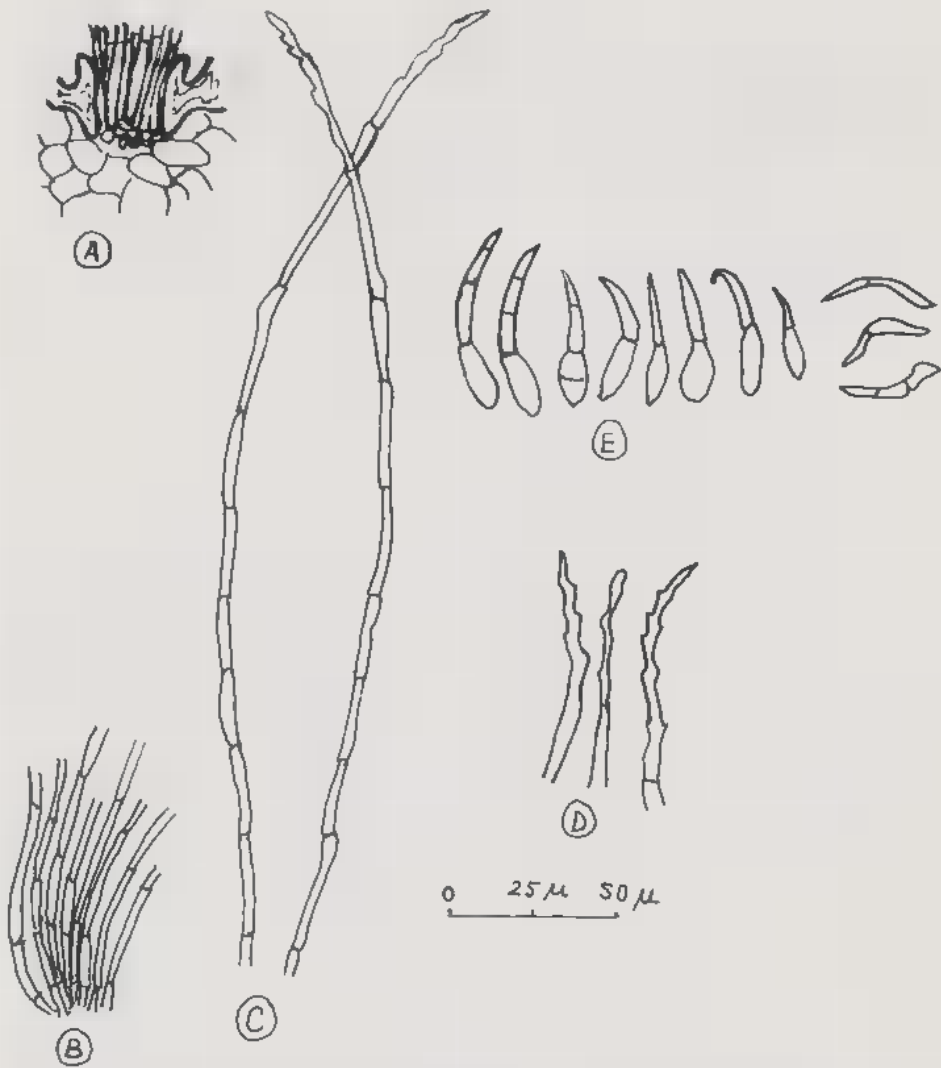


Figure 1 — *Passalora nepalensis*. A. Section through fascicle; B. Conidiophore fascicle; C. Conidiophores; D. Conidiophore apices; E. Conidia.

Figure 1 — *Passalora nepalensis*. A. Coupe d'un fascicule; B. Fascicule de conidiophores; C. Conidiophores; D. Sommets de conidiophores; E. Conidies.

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## REFERENCES

- BILGRAMI K.S., JAMALUDDIN and REZWI M.A., 1979 — Fungi of India. Part 1. List and references. Univ. Bhagalpur, India.
- DEIGHTON F.C., 1967 — Studies on *Cercospora* and allied genera II. *Mycol. Pap.* 112 : 1-16.
- SINGH S.C. and JOSHI A.R., 1977 — Bibliography on fungi of Nepal. *J. Nat. Hist. Mus.* 1 : 249-254.